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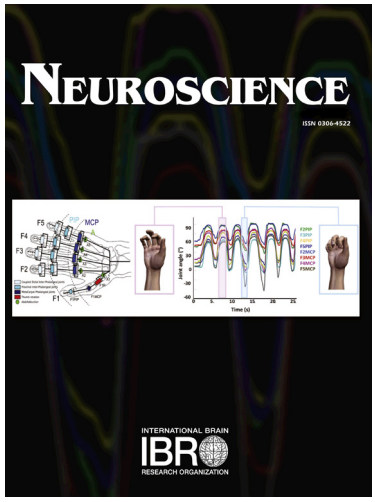

Commentary

Frontal cortical thickness, marriage and life satisfaction

Joaquim Radua

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Frontal cortical thickness, marriage and life satisfaction

Joaquim Radua[1-4]

[1] FIDMAG Germanes Hospitalàries, Sant Boi de Llobregat, Barcelona, Spain

[2] Mental Health Research Networking Center (CIBERSAM), Madrid, Spain

[3] Centre for Psychiatric Research and Education, Department of Clinical Neuroscience, Karolinska Institutet, Stockholm, Sweden

[4] Department of Psychosis Studies, Institute of Psychiatry, Psychology and Neuroscience, King's College London, London, UK

Correspondence to:

Joaquim Radua

King's College London, Institute of Psychiatry, Psychology and Neuroscience

PO 69. Division of Psychosis Studies

16 De Crespigny Park, London, SE5 8AF

Telephone: 02078480363 - FAX: 02078480379

Email: *quimradua@gmail.com*

TEXT

Subjective well-being may be understood as what we colloquially call "happiness", and in addition to being of obvious interest per se, it is associated to beneficial outcomes such as lower mortality (Martin-Maria et al., 2017) or higher work productivity (Oswald et al., 2015). Meta-analyses have shown that it is strongly correlated with personality (especially with low neuroticism and, to a lower extent, with high extraversion) (Steel et al., 2008), but life conditions and events also play a role.

An important number of studies have investigated the neural substrates of emotional processing (Radua et al., 2014), as well as the brain abnormalities in disorders with decreased positive affect or increased negative affect (e.g., depression and anxiety) (Wise et al., 2016; Pico-Perez et al., 2017), adding some indirect knowledge about the neural mechanisms of subjective well-being. However, the latter also includes a cognitive component, namely feeling satisfied with one's life (Diener 2000), which have been less investigated.

In this issue of Neuroscience, Zhu *et al.* use a large sample (n=1031) to investigate whether regional cortical thickness may correlate with life satisfaction, and whether relationship status (e.g., being married) may modulate this correlation. The reason to investigate this potential modulation is that married individuals feel more satisfied, whereas individuals who date infrequently feel less (Dush and Amato, 2005).

They find a very interesting interaction between gray matter and relationship status. Specifically, they observe a negative correlation between the thickness of superior and middle frontal gyri and life satisfaction. In plain words, individuals with a thin frontal cortex felt more satisfied with life, whilst individuals with a thick frontal cortex felt less.

However, this correlation is not apparent in individuals who were married or in a cohabiting relationship. They felt satisfied with life independently of the thickness of their frontal cortex (see Figure).

Finally, Zhu *et al* find that while the modulation is still statistically significant when controlling for the effects of social support, it is not when perceived stress is included in the equation. These results might point to that the modulation could be related to the effects of marriage/cohabitation on reducing perceived stress.

In my opinion, further studies will help us better understand these interesting findings. The correlation between gray matter and life satisfaction in non-married non-cohabiting individuals could be due, for example, to the presence of different subgroups (divorced, people who date others but do not live together, etcetera), because some of these subgroups could have both increased frontal gray matter and lower life satisfaction. And we could even hypothesize that this increased gray matter and lower life satisfaction could be due to an increased prevalence of individuals scoring high in neuroticism in these subgroups.

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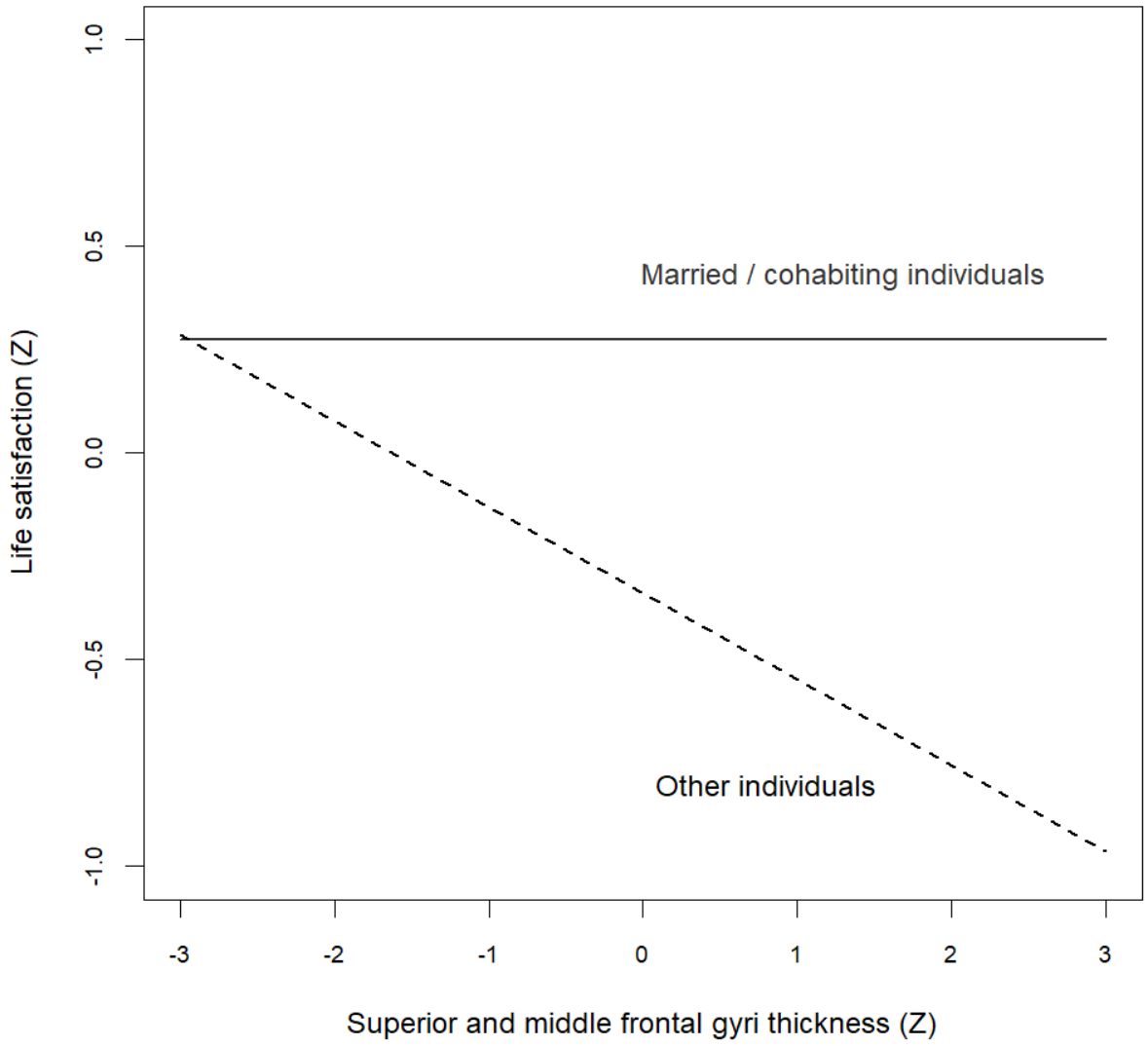
FIGURE LEGEND

Figure 1. Relationship between frontal cortical thickness and life satisfaction in married / cohabiting individuals and in other individuals.



HIGHLIGHTS

- Zhu *et al.* investigate the neural substrates of life satisfaction
- Individuals with a thick frontal cortex felt less satisfied.
- This lower life satisfaction is not observed in married individuals.